

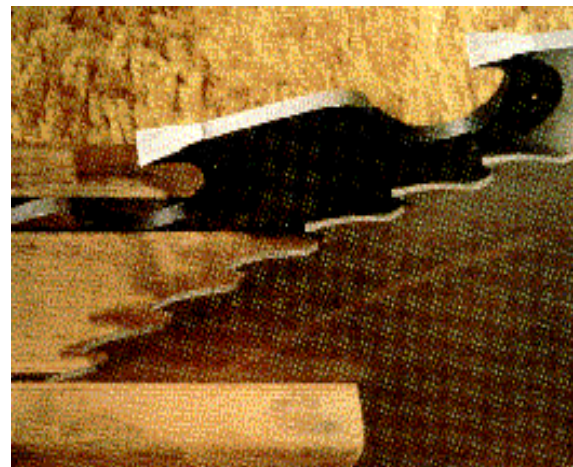
Advanced Saw Blades



The United States Department of Agriculture's Forest Products Laboratory

TECHNOLOGY

Researchers from the Structures and Material Divisions at NASA Glenn have mastered the use of high-temperature alloys for aerospace applications. Using this technology, they were able to apply a constrained heat treatment process to reduce the residual stress encountered by, and increase the strength of, saw blades.



***The Advanced Saw Blade
Compared With the Older Blade***

COMMERCIAL APPLICATION

- ◆ NASA was able to aid the USDA's Forest Products Lab by increasing the strength and eliminating the residual stress from a thinner saw, made of a nickel-based alloy, by using an innovative heat treatment.
- ◆ The impact of this improvement is expected to extend the technology to the blade manufacturer.

SOCIAL / ECONOMIC BENEFIT

- ◆ The new, thinner blades are expected to increase the amount of lumber gained from each log by five percent.
- ◆ This could save a substantial amount trees annually, and lead to a possible decrease in new housing costs.
- ◆ It is also possible that a great amount of lumber will be recovered from what would otherwise be sawdust and waste wood--benefiting our environment and our economy.

NASA APPLICATIONS

- ◆ NASA Glenn's Structures and Material Divisions use the high-temperature alloy experiments to perfect advanced aircraft and rocket engines.

NASA Contact: Dr. Paul A. Bartolotta
Company Contact: Jeanne D. Danielson
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